

## C L A I M S

1. A radio control device which comprises  
2 user plane control means for controlling transfer of  
3 user data concerning a mobile terminal, and control  
4 plane control means for controlling transfer of  
5 signaling as a control signal, and which manages a radio  
6 base station, characterized in that  
7           said control plane control means comprises  
8 paging group deciding means for deciding, in response to  
9 an external trigger for activating a paging process, and  
10 on the basis of terminal identification information  
11 contained in the external trigger, paging group  
12 information indicating a called party group to which a  
13 mobile terminal specified by the terminal identification  
14 information belongs, and  
15           said user plane control means comprises radio  
16 channel setting information deciding means for deciding  
17 setting information for a paging radio channel generated  
18 by said radio base station, on the basis of the paging  
19 group information.

2. A radio control device according to claim  
2 1, characterized in that said control plane control  
3 means and user plane control means are physically  
4 separated from each other.

3. A radio control device according to claim  
2 1, characterized in that said paging group deciding  
3 means decides the paging group information by using a

4 conversion table for the terminal identification  
5 information and paging group information.

4. A radio control device according to claim  
2 1, characterized in that said radio channel setting  
3 information deciding means decides, as the setting  
4 information, transmission frame number information of  
5 the paging radio channel and paging identifier  
6 information corresponding to the paging group to be  
7 carried on the channel, on the basis of the paging group  
8 information and a present transmission frame number of a  
9 radio channel in said radio base station.

5. A radio control device according to claim  
2 1, characterized in that said control plane control  
3 means further comprises means for creating a paging  
4 message.

6. A radio control device according to claim  
2 5, characterized in that said control plane control  
3 means further comprises means for deciding paging area  
4 information for specifying a radio base station to which  
5 the paging message is to be transmitted.

7. A radio control device according to claim  
2 6, characterized in that said user plane control means  
3 transmits the paging message and setting information to  
4 said radio base station in accordance with the paging  
5 area information.

8. A radio communication system comprising:  
2 a radio base station which terminates a mobile

3 terminal via a radio channel;

4 a radio control device which comprises user  
5 plane control means for controlling transfer of user  
6 data concerning said mobile terminal, and control plane  
7 control means for controlling transfer of signaling as a  
8 control signal, and which manages said radio base  
9 station; and

10 a core network which manages said radio  
11 control device, characterized in that

12 said control plane control means comprises  
13 paging group deciding means for deciding, in response to  
14 an external trigger for activating a paging process, and  
15 on the basis of terminal identification information  
16 contained in the external trigger, paging group  
17 information indicating a called party group to which a  
18 mobile terminal specified by the terminal identification  
19 information belongs, and

20 said user plane control means comprises radio  
21 channel setting information deciding means for deciding  
22 setting information for a paging radio channel generated  
23 by said radio base station, on the basis of the paging  
24 group information.

9. A radio communication system according to  
2 claim 8, characterized in that said control plane  
3 control means and user plane control means are  
4 physically separated from each other.

10. A radio communication system according to

2 claim 9, characterized in that said control plane  
3 control means further comprises means for creating a  
4 paging message.

11. A radio communication system according to  
2 claim 10, characterized in that said control plane  
3 control means further comprises means for deciding  
4 paging area information for specifying a radio base  
5 station to which the paging message is to be  
6 transmitted.

12. A radio communication system according to  
2 claim 11, characterized in that said user plane control  
3 means transmits the paging message and setting  
4 information to said radio base station in accordance  
5 with the paging area information.

13. A radio communication system according to  
2 claim 12, characterized in that said radio base station  
3 transmits the paging message to said mobile terminal on  
4 the basis of the setting information.

14. An operation control method of a radio  
2 control device which comprises a user plane control unit  
3 for controlling transfer of user data concerning a  
4 mobile terminal, and a control plane control unit for  
5 controlling transfer of signaling as a control signal,  
6 and which manages a radio base station, characterized by  
7 comprising the steps of:

8 deciding, in the control plane control unit,  
9 paging group information indicating a called party group

10 to which a mobile terminal belongs, in response to an  
11 external trigger for activating a paging process, and on  
12 the basis of terminal identification information  
13 contained in the external trigger; and  
14 deciding, in the user plane control unit,  
15 setting information for a paging radio channel generated  
16 by the radio base station, on the basis of the paging  
17 group information.

15. An operation control method according to  
2 claim 14, characterized in that

3 the control plane control unit and user plane  
4 control unit are physically separated from each other,  
5 and

6 the method further comprises the step of  
7 transmitting the paging group information from the  
8 control plane control unit to the user plane control  
9 unit.

16. An operation control method according to  
2 claim 14, characterized in that the step of deciding the  
3 paging group information comprises the step of deciding  
4 the paging group information by using a conversion table  
5 for the terminal identification information and paging  
6 group information.

17. An operation control method according to  
2 claim 14, characterized in that the step of deciding the  
3 radio channel setting information comprises the step of  
4 deciding, as the setting information, transmission frame

5 number information of the paging radio channel and  
6 paging identifier information corresponding to the  
7 paging group to be carried on the channel, on the basis  
8 of the paging group information and a present  
9 transmission frame number of a radio channel in the  
10 radio base station.

18. An operation control method according to  
2 claim 14, characterized by further comprising, in the  
3 control plane control unit, the step of creating a  
4 paging message.

19. An operation control method according to  
2 claim 18, characterized by further comprising, in the  
3 control plane control unit, the step of deciding paging  
4 area information for specifying a radio base station to  
5 which the paging message is to be transmitted.

20. An operation control method according to  
2 claim 19, characterized by further comprising, in the  
3 user plane control unit, the step of transmitting the  
4 paging message and setting information to the radio base  
5 station in accordance with the paging area information.